



NEWS RELEASE

# Lantern Pharma Unveils Roadmap for withZeta.ai — Industry-First, Multi-Agentive Co-Scientist Featuring Swarm Intelligence and Computational Biology Toolkit with the Launch of ZetaSwarm™ and ZetaOmics™

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- Planned additions are designed to expand and enhance withZeta.ai's capabilities, including: real-time, multi-omic computational analyses; simultaneous, highly parallel multi-agentive reasoning, and enterprise-grade institutional deployment.
- withZeta.ai is now commercially available with a fully enabled subscription payment model serving the full spectrum of the biomedical research and drug development community — and representing a new, non-dilutive revenue stream for Lantern Pharma shareholders in a market for AI-focused drug development and discovery tools and services valued at nearly \$15 billion USD.

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), a clinical-stage AI-driven precision oncology company, today unveiled the next phase of its development roadmap for **withZeta.ai**, the company's multi-agentive A.I. co-scientist platform for oncology research and drug discovery. Future development plans for release in the coming year include three major capability tracks: **ZetaSwarm™**, an autonomous multi-agent swarm intelligence layer; **ZetaOmics™**, a real-time computational biology and multi-omic analytics toolkit that extends withZeta.ai's existing production foundation of 34 bioinformatics, chemoinformatic, and clinical research tools; and a new suite of **enterprise-grade platform features** designed for institutional and commercial deployment.

The roadmap brings together two threads that have been advancing in parallel across AI for biomedicine (autonomous multi-agent reasoning and large-scale computational biology) into a single, integrated research environment. ZetaSwarm™ and ZetaOmics™ are intended to make withZeta.ai one of the few platforms in oncology AI that operates fluently in both domains, with shared infrastructure, shared authentication, and a unified audit trail. With ZetaSwarm, ZetaOmics, and enterprise capabilities, withZeta.ai is expected to deepen its role as both a hyper-productivity layer for Lantern’s internal R&D focused on novel drug development and as a standalone commercial AI platform offering for the broader oncology research community.

“Lantern has built withZeta.ai with disciplined capital efficiency and a clear focus on real scientific computation. The Board views this roadmap as an important step in extending the platform’s differentiation and in building long-term value alongside our clinical pipeline,” said **Donald Jeff Keyser, RPh, JD, PhD, Chairman of the Board of Lantern Pharma.**

“With this roadmap, a researcher can ask withZeta.ai a single complex question — evaluate a compound, profile an indication, design a trial cohort — and have a coordinated team of specialist agents parse it, run real computational analyses on real biomarker data, and converge on a synthesized, auditable answer in one session. ZetaSwarm gives us a multi-agentic simulacrum-type environment where agents and tools converge onto deeply layered scientific questions. ZetaOmics gives us the computational biology layer that strengthens agentic analysis with real-time multiomic computation rather than literature retrieval alone. The enterprise track is being built for the way pharma, academic medical centers, and biotech research teams actually work, with their own data and access controls,” said **Panna Sharma, President and CEO of Lantern Pharma and Founder of withZeta.ai.**

## ZetaSwarm™ — Autonomous & Parallel Multi-Agent Swarm Intelligence

ZetaSwarm is being designed as a coordinated network of specialist AI agents that operate in parallel on scientific sub-problems and converge on a synthesized answer through a coordinator-and-reviewer architecture. ZetaSwarm is intended to be differentiated from other multi-agent frameworks emerging in pharma AI by its **grounding in real tool use** — whereas most current frameworks rely on LLM-to-LLM dialogue without external data access, ZetaSwarm agents are being designed to operate on top of **34 tools** spanning curated rare cancer datasets, clinical trial intelligence, chemical and biomedical literature databases, molecular profiling, bioinformatics and de novo molecular design capabilities running on dedicated GPU infrastructure.

The architecture is built on withZeta.ai’s existing **persona matrix**, which crosses three research modes (Explorer, Investigator, Reporter) with five domain specialists spanning medicinal chemistry, clinical trial strategy, clinical

oncology, biomarkers, and general scientific reasoning, yielding fifteen distinct agent configurations, each with tailored tool access, reasoning depth, concurrency, and system context.

Under ZetaSwarm™, a single complex query — for example, “Profile this rare CNS indication for biomarker-stratified trial design” — would be parsed by a coordinator agent and dispatched to specialist subagents operating concurrently. A biomarker expert would examine the genomic landscape; a clinical trial strategist would evaluate the competitive landscape; a medicinal chemist would assess candidate compounds and BBB permeability; a clinical oncologist would contextualize treatment setting. A reviewer agent would then critically evaluate the synthesis before the response is delivered to the user.

ZetaSwarm™ is being designed to operate on withZeta.ai’s existing production runtime, leveraging tested infrastructure for tool execution, concurrency, and audit logging.

## ZetaOmics™ — Computational Biology & Multi-Omic Bioinformatics Toolkit

ZetaOmics™ is being designed to operate both as a standalone bioinformatics focused toolkit accessible directly through withZeta.ai and as a computational layer that ZetaSwarm specialist agents can invoke during multi-agent reasoning. The toolkit is intended to bring real-time multiomic biomarker and drug response analytics directly into the conversational research environment, enabling researchers to run the kinds of cohort-level analyses that would typically require dedicated bioinformatics infrastructure and specialized analyst support.

ZetaOmics™ is being developed against curated public multiomic and drug response datasets including **TCGA**, **GTE**x, **TARGET**, **NCBI GEO**, and **NCI-60**, with planned integration of genomic alteration data through **cBioPortal**. Planned analytical capabilities include:

- Differential expression analysis across tumor and normal tissue
- Pathway enrichment across major curated biological pathway databases including GO, KEGG, and Reactome
- Genomic and molecular alteration queries
- Drug-response correlation analysis
- Survival analysis using established statistical modeling approaches
- Cross-cohort expression comparisons with batch effect detection

Future iterations of ZetaOmics™ are intended to allow researchers to augment and deepen these analyses with their own unique datasets, extending the platform’s analytical capabilities to internal cohorts, proprietary screening data, and customer-specific multiomic libraries.

Together with ZetaSwarm’s multi-agentic reasoning and the planned enterprise capabilities, ZetaOmics is intended

to mark a substantive evolution of withZeta.ai — an A.I. co-scientist that retrieves and synthesizes scientific literature generating novel ideas while also performing deep, defensible computational analyses on real biological data, in near time, and in direct conversation with the researcher. This evolution is intended to more closely resemble the interactive and multidisciplinary nature of biomedical and drug development workflows and collaboration, but with the potential to compress months or years of iteration into hours and days.

## Enterprise-Grade Platform Capabilities

Lantern Pharma is also developing a focused set of enterprise capabilities designed to support institutional research deployments at pharma companies, academic medical centers, biotech research groups, and integrated cancer centers. The enterprise track is being built on withZeta.ai's existing production infrastructure, which already includes Stripe-integrated tiered subscriptions, a multi-layered credit system, Cognito-based authentication, comprehensive tool-execution tracking with per-user cost attribution, administrative dashboards, and branded PDF report export.

Planned enterprise features include:

- Workspace and organization-level accounts, extending withZeta.ai's per-user model to support organizational billing, shared conversation history, and role-based access controls.
- Comprehensive audit trails, surfacing the platform's existing per-execution logging (who asked what, which tools were invoked, what data was accessed, token usage, and cost) as a queryable, exportable audit log suitable for regulated and compliance-sensitive environments.
- Private knowledge bases, allowing enterprise customers to bring their own corpus of internal publications, proprietary datasets, and clinical reference material into withZeta.ai. The platform's existing hybrid retrieval engine (combining pgvector semantic search, keyword matching, reranking, and text-to-SQL over structured metadata) is intended to be extended through a new ingestion pipeline.

## A Defining Step in the Evolution of A.I. for Oncology

"The current state of AI in biomedicine asks researchers to pick between two unsatisfying options: a brilliant AI generalist that has read everything and understands nothing specific, and a legacy software stack that has understood a few fixed routines for twenty years and cannot learn anything new. With this roadmap, withZeta.ai is being built as the third option — a multi-agentic, learning platform that knows what it doesn't know, can call the right tool to find out, and improves with every research session. We believe this is what the next decade of AI in biomedicine looks like," said **Sharma**.

## About withZeta.ai

**withZeta.ai** is redefining how rare cancer research, discovery, drug development, and clinical trial design gets done. Knowledge work in oncology is migrating to AI co-scientists, autonomous systems that investigate, reason, and synthesize across the full breadth of scientific evidence. **withZeta.ai** is that co-scientist: purpose-built for the biology, economics, and urgency of rare cancer drug development, and accessible to any researcher, anywhere. Built by Lantern Pharma (Nasdaq: LTRN). Learn more and subscribe at **withZeta.ai**.

## About Lantern Pharma

Lantern Pharma (NASDAQ: LTRN) is a clinical-stage AI-driven precision oncology company transforming the cost, pace, and timeline of oncology drug discovery and development. The company's proprietary AI and machine learning platform, RADR®, now operationalized through withZeta.ai, leverages billions of data points and advanced computational methods to rapidly uncover biomarker signatures and accelerate the development of targeted oncology therapies for difficult-to-treat cancers, including those of the central nervous system. Lantern is currently advancing a pipeline of small molecule drug candidates and antibody-drug conjugate programs across multiple solid tumor and hematologic malignancies. For more information, visit [www.lanternpharma.com](http://www.lanternpharma.com).

## Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements include, among other things, statements relating to: future events or our future financial performance; the planned development, design, capabilities, and commercial potential of the withZeta.ai platform and the ZetaSwarm™ and ZetaOmics™ feature tracks; expectations about enterprise grade platform capabilities and anticipated implementation and deployments; our broader product, clinical, and platform roadmap, including future directions for withZeta.ai and the planned implementation of new features; the potential advantages of our withZeta.ai platform in identifying drug candidates, accelerating drug development, and generating revenue through software licensing and subscription models; the planned commercialization of our AI platforms, including withZeta.ai, and the expected market opportunity for AI co-scientist platforms; our intention to leverage artificial intelligence, machine learning and genomic data to streamline and transform the pace, risk and cost of oncology drug discovery and development; and estimates regarding potential markets and potential market sizes.

Any statements that are not statements of historical fact (including, without limitation, statements that use words such as “anticipate,” “believe,” “contemplate,” “could,” “estimate,” “expect,” “intend,” “seek,” “may,” “might,” “plan,” “potential,” “predict,” “project,” “target,” “model,” “objective,” “aim,” “upcoming,” “should,” “will,” “would,” or the negative of these words or other similar expressions) should be considered forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated by the

forward-looking statements, such as (i) the risk that we may not be able to secure sufficient future funding when needed and as required to advance and support our existing and planned development programs and operations, (ii) the risk that our AI platform commercialization efforts, including withZeta.ai, may not generate the anticipated revenue or achieve the expected market adoption, (iii) the risk that implementation of our product development plans and new features for withZeta.ai may not be successful or may take longer than anticipated for development, completion, and release, (iv) the risk that no drug product based on our proprietary AI platforms has received FDA marketing approval or otherwise been incorporated into a commercial product, and (v) technical, scientific, regulatory, financial, competitive, and operational risks and those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2025, filed with the Securities and Exchange Commission on March 30, 2026.

You may access our Annual Report on Form 10-K for the year ended December 31, 2025 under the investor SEC filings tab of our website at [www.lanternpharma.com](http://www.lanternpharma.com) or on the SEC's website at [www.sec.gov](http://www.sec.gov). Given these risks and uncertainties, we can give no assurances that our forward-looking statements will prove to be accurate, or that any other results or events projected or contemplated by our forward-looking statements will in fact occur, and we caution investors not to place undue reliance on these statements. All forward-looking statements in this press release represent our judgment as of the date hereof, and, except as otherwise required by law, we disclaim any obligation to update any forward-looking statements to conform the statement to actual results or changes in our expectations.

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